VNIVERSITAT DE VALÈNCIA

Course Guide
33983 Bromatology

COURSE DATA

Data Subject	
Code	33983
Name	Bromatology
Cycle	Grade
ECTS Credits	10.5
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
1103 - Degree in Food Science and Technology	Faculty of Pharmacy and Food Sciences	2	Annual

Subject-matter

Degree	Subject-matter	Character
1103 - Degree in Food Science and Technology	11 - Bromatology	Obligatory

Coordination

Name	Department
BARBERA SAEZ, REYES	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.

SUMMARY

This subject has two blocks:

-Basic concepts related to: a) Terminology of the subject: Bromatology, food-nutrient, feeding-nutrition, nutritional value; b) Types of foods: functional, new foods and food supplements; c) Quality of foods and legislative aspects

-Study of the different food groups (animal and plant origin, beverages and others) regarding the following aspects: composition, properties and quality parameters.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

Biology, General and Organic Chemistry and Biochemistry
To enrol simultaneously other subject of module of Food Sciences such as Food Chemistry and Food Technology.

OUTCOMES

1103 - Degree in Food Science and Technology

- Capacidad de interpretar datos relevantes.
- Develop skills to undertake further study.
- The ability to transmit ideas, problems and solutions within this study area and to communicate the knowledge acquired.
- Know how to apply that knowledge to the professional world contributing to the development of human rights, democratic principles, the principles of equality between women and men, solidarity, protection of the environment and promotion of the culture of peace, from a gender perspective.
- Poseer y comprender los conocimientos en el área de Ciencia y Tecnología de los Alimentos.
- Be familiar with discipline-specific terminology.
- Know the definition and classification of different food products according to national, European and international legal standards.
- Know the composition of the different food groups.
- Know the technological, nutritional and health properties of foodstuffs.
- Acquire capacity to assess the impact of the consumption of food on the health of the population.
- Know the general and specific parameters of quality for each food group.
- Adquirir capacidad de utilizar adecuadamente las fuentes de información y comunicación disponibles.

LEARNING OUTCOMES

- Familiarization with and correct use of the terminology of the subject.
- Capacity to compare composition and properties (nutritional, technological and beneficial) of the different food groups, using the food composition tables and databases.
- Nutritional evaluation of any food, based on its composition or general or nutritional labeling,

allowing integration within the food-health binomial.

- Knowledge of when, where and how to control food quality.

- Knowledge and capacity to use the basic and specialized literature sources, as well as some electronic sources addressing topics related to Bromatology.

- Capacity to adequately synthesize and organize information from different sources.

- Capacity to correctly express the knowledge gained and relate it to previously acquired data.

- Acquisition of a critical and creative approach (initiative and autonomy), combined with scientific rigor, to evaluate and resolve problems.

- Cooperation in the context of teamwork, for the exchanging of experiences.

- Capacity to apply / develop the acquired knowledge and skills with a personal perspective promoting the development of human rights.

DESCRIPTION OF CONTENTS

1. GENERAL

Subject 1.-Food Science. Concept .Academic guidelines
Subject 2.-Concept of food and nutrient. Nutrition value of foods. Food groups.
Subject 3.-Functional foods. Novel foods. Food complements.
Subject 4.- Books and food composition date bases
Subject 5.-Quality of foods.Criteria of quality.Alteration of foods
Subject 6.- Food information: food labeling

2. Animal foods

Subject 7- Meat and meats products. Classification. Composition and nutritional value. Characteristics of quality
Subject 8.- Fish, products of the finish and derivates. Classification. Composition and nutritional value. Characteristics of quality
Subject 9.-Eggs and derivates. Composition and nutritional value. Characteristics of quality
Subject 10.-Milk and dairy products. Classification. Composition and nutritional value. Characteristics of quality

3. Vegetal foods

Subject 11.-Fats of vegetal origin. Modified fats.Fat substitutes. Quality parameters
Subject 12.-Cereals and derivates.Classifications .Wheat and rice:structure and grain composition.Flour:composition. Bread. Bakery products.Composition and nutritional value. Breakfast cereals.Quality parameters
Subject 13.-Vegetables.Classification.Composition and nutritional value.Criteria of quality
Subject 14.-Tubercles. Composition and nutritional value
Subject 15.- Vegetables and derivates .Classification. Composition and nutritional value. Commercial presentations. Criteria of quality
Subject 16.-Fruits and derivates. Classification.Composition and nutritional value. Commercial presentations.Criteria of quality

4. Beverages

Subject 17.-Water.Potable water. Packaged drink waters. Parameters of quality
Subject 18.-Alcoholic beverages .Classification. Composition and nutritional value. Parameters of quality
Subject 19.-Non- Alcoholic beverages .Classification. Composition and nutritional. valueParameters of quality

5. Others

Subject 20.- Coffee, tea, cacao and derivates .Composition and nutritional value
Subject 21.- Natural sweeteners: Sugar and honey.Composition and nutritional value. Parameters of quality
Subject 22. Condiments and spices . Clasification and composition

6. Laboratory and informatic sessions

Five laboratory sessions(4h/sesión)
1.- Oils: Degree of acidity, peroxide index, UV absorption
2.-Fruit juices : vitamin C, density, Brix degree. Milk: Dry extract, ashes,humidity
3.-Vegetal caned foods: net and slipped weigth, pH, acidity, chlorides
4.- Coffee: cafein determination. Non-alcoholic beverages: Quinine determination
5.-Eggs:Traceability.Quality parameters. Cholesterol determination

Two informatic sessions (2x 2,5 h):
Foods comparisons: Composition and nutritional values. Uses of food composition base dates
Evaluation and food labeling

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	65,00	100
Laboratory practices	25,00	100
Seminars	5,00	100
Tutorials	4,00	100
Development of group work	25,00	0
Study and independent work	100,00	0
Preparation of evaluation activities	20,00	0
Preparation of practical classes and problem	12,50	0
TOTAL	**256,50**	

TEACHING METHODOLOGY

Theoretical classes: 65 hours / course. The classes are imparted with the support of technical audiovisual material. This material will be previously made available to the student through the virtual platform.At the end of each thematic block, the teacher will be able to use TIC tools to achieve the most relevant concepts.

Seminars:four coordinated seminars on topics provided by the teacher or proposed by the students. The seminars will be supervised through tutorships, arranged between the teacher and students. The seminars will be developed in writing and will be presented by the students. Following the verbal presentation, the rest of the students will have the opportunity to intervene, moderated by the teacher. A seminar did not coordinate the activities to bid for a tasca to the virtual classroom.

Practical classes (laboratory and software): 25 hours/course. Five practical laboratory classes with a duration of four hours, and two computer room sessions (5 hours). The teacher will previously distribute a booklet with the procedures, which will be available through the virtual platform.

The students will have to elaborate a memorandum, in the format that will facilitate him previously, of each of the practices of
laboratory that it will include: objective, sample description, experimental data, calculation, interpretation of results and references used. They must elaborate and deliver the corresponding memorandum on having finished every practice

In the case of the two practical computer sessions, the students will carry out a work involving comparison of the composition and nutritional value of specifically foods, to be presented in writing.The memoranda are to be presented during the one week following conclusion of the practical classes.

Tutoring: Four tutorships are contemplated, each with a duration of one hour, per group of students. The students will establish the doubts on the subject, with short questions and/or previously supplied problems through the virtual platform.

During the classes, examples of the applications of the contents of the subject in relation to the Sustainable Development Goals (SDG) will be indicated, as well as in the proposals of topics for the coordinated seminars. This is intended to provide students with knowledge, skills and motivation to understand and address these SDGs

EVALUATION

1.- Theoretical exam: The exam material will include the subjects presented during the theoretical clases involving open and short questions or alternative response questions (true-false), with due reasoning and short questions as well as online questionnaires.

Continuous evaluation will be carried out in both semesters with various tests representing **60%** of the final mark. It is required to obtain a minimum of 5 points out of 10 in the sum of all the tests carried out per semester.The mark of the test of the first semester only will be saved for the official examination sessions If the student does not take part in the continuous evaluation , they will take the officially scheduled tests

2.-Seminars: The seminars coordinated (one each semester) will contribute 10% to the final grade, and the aspects relating to evaluation will be those agreed for coordinated seminars (to be made public through the virtual platform of the Center, Grau de Ciéncia i Tecnologia dels aliments).The studient must writte a report in relation to the seminary about food science matter. Evaluation will be made on the level of understanding of the contents and of the skills in his/her presentation and discussion.Not attending without justifiable cause coordinated seminars sesions, involve a zero mark corresponding to the seminar evaluation.

3.-Tutoring: Evaluation will be made of student reply to the questions presented in writing as homework in the virtual plataform. Tutoring will contribute 10% to the final grade.

4.- Practical sessions: Evaluation will be made of the drafting of memoranda(this test will represent 10% of the final grade).

In addition, a written test will be taken that will contribute **10%** to the final grade.

Students which did not pass the theoretical and practical examination, their marks from the practical session will be saved during the next two years. After this period , students must repeat again the practical session.

Participation in the tutorships, seminars and practical sessions is obligatory in order to pass the subject.

Call advanced exam: To request advancement of call for review of this subject, the students must have all the mandatory of the course carried out (seminars, tutorials and Practices).

Remenber:

-Two seminars (one for each semester) are required to pass the matter.

Students who are repeating the subject, marks from the tutorials and seminars will be maintained. Marks corresponding to the lab report will be maintained for the following two years after their performing. After this period, lab sessions will have to be repeated.

-If the student pass tutories and seminars, but he/she do not perform the theorical-practical proofs , the mark will be Non presented

-The subject will not be considered approved, although a mark of 5 is achieved by the sum of the grades for seminars, tutorials, theorical-practical proofs, if marks do not met the minimum requirements described in the evaluation section.

REFERENCES

Basic

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  ORDOÑEZ J.A. (Editor). Tecnología de los Alimentos. Vol 1 y 2. Alimentos de origen animal. Síntesis. Madrid. 1998.
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  CESNID (Centre dEnsenyament Superior de Nutrició I Dietética) Tablas de composición de alimentos. Ed. Universitat de Barcelona. Barcelona. España. 2002
  SOUCI SW. FACHMAN W. KRAUT H. Food composition and nutrition tables.. La composition des aliments: tableaux des valeurs nutritives. 6th revised and completed edition by Heimo Scherz und

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